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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/519,802  | 08/19/2005  | Toshio Narita        | 043061              | 7353             |
| 38834   | 7590        | 12/29/2005           | EXAMINER            |                  |
| WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP<br>1250 CONNECTICUT AVENUE, NW<br>SUITE 700<br>WASHINGTON, DC 20036 |             |                      | LAVILLA, MICHAEL E  |                  |
|   |             | ART UNIT             | PAPER NUMBER        |                  |
|   |             | 1775                 |                     |                  |

DATE MAILED: 12/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/519,802             | NARITA, TOSHIO      |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Michael La Villa       | 1775                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is **FINAL**.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-9 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 29 December 2004 is/are: a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 20041229.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:
  2. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
  3. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
    - I. Regarding Claims 1 and 2, it is unclear whether the claimed "core," having "a coating film formed on said core," implies any specific structural aspect to the claimed article other than a film on a substrate. For example, the figures depict cylindrical cores coated on the entire outer surface with coating film. Is this arrangement required by the claim? Is coating on the entire outer surface necessary in order to achieve the claimed heat resistance and corrosion resistance?
    - II. Regarding Claims 3 and 7, it is unclear what is meant by the phrase "into a member having an intended shape." It is unclear how to distinguish an intended shape from an unintended shape. What characteristics define an "intended shape"? It is unclear whether the required "coating said member with a film" implies that the film is applied over the entirety of the outer surface of the member? Is coating on the entire outer surface necessary in order to achieve the claimed heat resistance and corrosion resistance?

III. Regarding Claim 3, it is unclear what is meant by the phrase "to allow said film to be formed as an inner layer of a Re-Cr based . . . (sigma) phase." Does this phrase mean that the heat treatment is performed with the result that a so-called "inner layer of the Re-Cr based sigma phase" is formed?

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:
  5. A person shall be entitled to a patent unless –
  6. (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
7. Claim 2 is rejected under 35 U.S.C. 102(b) as being anticipated by Meelu USPN 6,299,986. Meelu teaches a refractory metal core having a barrier layer and an aluminide layer applied thereto, wherein the core and the barrier layer are comprised of rhenium and chromium. Meelu teaches that very little interdiffusion occurs between the barrier and core. Nevertheless, since the core comprises rhenium and chromium, the core can be identified with a core that has "rhenium and chromium diffused therein." See Meelu (Abstract; Figure1; col. 2, line 35 through col.3, line 62; col. 4, lines 26-53; col. 5, lines 10-46; and col. 8, lines 23-37).

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 1-4, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Narita et al. WO 03/038152. Narita teaches coating a superalloy substrate with an inner layer comprised of a Re-X based alloy and an outer layer of an aluminide layer. See Narita et al. USPA 2005/0064227 (Abstract; Figures 1-5; paragraphs 35-42, 46-49, and 65-73; and Claim 7) (translation of Narita et al. WO 03/038152). Narita does not exemplify Re-Cr sigma based alloy, but teaches that such alloys are effective. It would have been obvious to one of ordinary skill in the art at the time of the invention to apply a Re-Cr based sigma alloy inner layer as Narita teaches that inner layers comprised of these materials are effective. Regarding Claim 2, in view of the high heat treatment, some interdiffusion between the inner layer and the substrate would be expected. Regarding Claim 4, Narita teaches that the aluminide may comprise chromium, and Narita teaches forming the aluminide layer from two layers of respective

elements and heat treating. It would have been obvious to one of ordinary skill in the art at the time of the invention to fabricate chromium aluminide outer layer, as Narita suggests that these materials are effective outer layer materials.

***Allowable Subject Matter***

11. Claims 5, 6, and 9 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
12. Neither the reviewed prior art, nor the prior art of record, teaches or suggests the subject matter of Claims 5, 6, and 9. Particularly, the claimed additional step of forming another rhenium layer that will be reacted to form the layer on the inner layer is not taught or suggested by the prior art.

***Conclusion***

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael La Villa whose telephone number is (571) 272-1539. The examiner can normally be reached on Monday through Friday.
14. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

15. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael La Villa  
22 December 2005



MICHAEL E. LAVILLA PH.D.  
PRIMARY EXAMINER